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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/645,775 | 08/22/2003 | Masafumi Sakaguchi | 116906 | 8777 |

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| EXAMINER | |
|---|---|
| SEVER, ANDREW T | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2851 | |

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H-B

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/645,775 | SAKAGUCHI ET AL. | |
| | Examiner | Art Unit | |
| | Andrew T. Sever | 2851 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *04 January 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-7 and 9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 August 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/15/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 5, 6, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKechnie et al. (US 4,30,897) in view of Takuma et al. (US 5,615,045.)

Mckechnie et al. teaches in figure 7 a transmissive screen, comprising a Fresnel lens portion having Fresnel lens components on the light-exiting face, thereof;

A microlens array portion (lenticulars) disposed at the light-exiting face side of the Fresnel lens portion and having many micro lenses on a light-incident face; and

A light-diffusing portion disposed between the Fresnel lens portion and the microlens array portion (surface diffusion on the front element.)

Mckechnie does not teach that the microlens array has the microlenses arrayed in the vertical and horizontal directions such that the adjacent microlenses have common edges and the microlens array is rotated by 45 degrees. Such a system is taught by Takuma, which teaches a microlens array in figures 5a-5c, which is then modified by Takuma in column 6 lines 45-59 which teaches in the fifth embodiment the microlens array is rotated

by 45 degrees. Takuma teaches that rotating a microlens array as well as two crossed lenticular lens screens (Takuma teaches that a microlens array is interchangeable with two crossed lenticular lens screens in column 1 lines 50-62), results in the frequency of Moiré between the lenticular/micro-lenses and the scan lines of the image being higher that in the conventional example making moiré inconspicuous (see column 6 lines 40-45). Since it is desirous to reduce the notice ability of moiré in projection systems, it would have been obvious to use a microlens array that is rotated by 45 degrees in the transmissive screen of McKechnie.

*With regards to applicant's claim 2:*

Since the diffusing surface is at the surface of the microlens array of McKechnie and the type of diffuser depicted in figure 7 has substantially the diffusing at a surface of the light-diffusing portion.

*With regards to applicant's claim 5:*

Although McKechnie does not teach it, one with ordinary skill in the art would recognize that the powder that McKechnie uses to make the diffraction pattern would make substantially conical irregularities.

*With regards to applicant's claim 6:*

See column 4 lines 9-27 of McKechnie which teach that the surface diffuser is made by roughing a resin (polymer with a powder.

*With regards to applicant's claim 9:*

Takuma teaches in figure 1 the basic parts of a rear projector which includes an optical projection unit (11 and 12) and a transmission screen (13). As taught in column 1 of Takuma such rear projector's typically use transmission screens of the type taught above by McKechnie and modified by Takuma. Given the advantages of the modified screen over the prior art screens taught in column 1 of Takuma it would be obvious to one of ordinary skill in the art at the time the invention was made to use the screen of McKechnie in view of Takuma in a rear projector.

3. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKechnie in view of Takuma as applied to claims 1, 2, 5, 6, and 9 above, and further in view of Goto et al. (US 2003/0137729.)

As described in more detail above McKechnie in view of Takuma teach among other things a transmissive screen having a light-diffusing portion, however they do not specifically teach that it has a haze value ranging from 5% to 99% or that it has a gloss value ranging from 5% to 65%. Goto ('729) teaches a screen that does not have the diffusive sheet that it is desirous to have the Fresnel sheet have a haze value of 15 to 40% and a gloss of 20 to 45% in order to maintain contrast and reduce ghosting (see paragraphs 20-24.) Although Goto ('729) does not teach the light diffusing portion, it would be equally obvious to maintain these values on the light-diffusing portion as otherwise the light-diffusing portion would introduce the ghosting and/or cause diffraction. Therefore it would have been obvious to one of ordinary skill in the art to

make the light-diffusing portion of McKechnie have a haze value of 15 to 40% and gloss value of 20 to 45%.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over McKechnie in view of Takuma as applied to claims 1, 2, 5, 6, and 9 above, and further in view of Goto (US 6,046,855.)

As described in more detail above McKechnie in view of Takuma teaches a transmissive screen, but does not necessarily teach their diameter. Goto ('855) teaches in column 11 lines 55-67 microlenses having a diameter of 24 to 50 micrometers. Goto ('855) teaches in column 3 lines 45-54 that the diameter of the lenses improves contrast as well as reduces reflection of extraneous light. Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the microlenses of Goto ('855) in the transmissive screen of Mckechnie.

***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1, 2, and 9 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4 and 6 of copending Application No. 10/647,302. Although the conflicting claims are not identical, they are not patentably distinct from each other because the '302 application claims a diffusing sheet as opposed to just a diffusing portion in claim 4 and in claim 6 does not specifically claim the diffusing portion, however in combination with claim 4 it is obvious (as stated above the screens of type of claim 4 are typically used in rear projectors and it would be obvious to one of ordinary skill in the art to used the improve one of claim 4 in a rear projector as is claimed in claim 6 (both of the '302 application).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Claims 3 and 4 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 3 of copending Application No. 10/647,302 in view of Goto et al. (US 2003/0137729.)

Claim 3 of the '302 application does not claim the haze or gloss value of the diffusing portion, however as taught above the Goto reference '729 teaches these values (specifically that it is desirous to have the haze value between15 to 40 % and the gloss value between 20 and 45 %) in order to maintain contrast and reduce ghosting. Accordingly it would been obvious to one of ordinary skill in the art at the time the invention was made to modify claim 3 of the '302 application to include the haze and gloss value in order to make a transmission screen having good contrast and reduces ghosting.

This is a provisional obviousness-type double patenting rejection.

8. Claim 7 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 3 of copending Application No. 10/647,302 in view of Goto (US 6,046,855.)

Claim 3 of the '302 application does not claim the diameter of the microlenses, however as taught above the Goto reference '855 teaches the diameter (specifically 24 to 50 micrometers) in order to improve contrast as well as reduce reflections of extraneous light.. Accordingly it would been obvious to one of ordinary skill in the art at the time the invention was made to modify claim 3 of the '302 application to use diameters ranging between 10 and 150 micrometers in order to make a transmission screen have good contrast.

This is a provisional obviousness-type double patenting rejection.

***Response to Arguments***

9. Applicant's arguments filed 1/4/2005 have been fully considered but they are not persuasive.

Applicant argues that McKechnie in view of Takuma does not teach a single microlens array which is rotated by 45 degrees. Specifically applicant states that Takuma does not teach such a structure, however as is sited above, Takuma does teach such a structure in the fifth embodiment which as stated in column 6 lines 51-59 comprises of a single microlens array like that shown in the prior art figures 5a-5c, however Takuma rotates the single microlens array in the manner that is taught with regards to the fourth embodiment (the embodiment comprising the crossed lenticular sheets.) This is a clear teaching of rotating a single microlens array by 45 degrees. Figure 12B does not correspond to the fifth embodiment, but rather corresponds to the fourth embodiment; the fifth embodiment is not illustrated. Accordingly since Takuma does teach rotating a microlens array as claimed the rejections have been repeated are made final. The double patenting objections are also being repeated as applicant's amendments only add subject matter that one of ordinary skill in the art would assume were present in the copending application.

***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alan A. Mathews

AS

Alan A. Mathews
Primary Examiner